Nicholas Caro Lopez

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EDUCATION

Toronto Metropolitan University (formerly Ryerson University) — Toronto, ON
Candidate for Bachelor of Science, Computer Science Co-op — *Expected Graduation: July 2027*

- **GPA**: 4.05/4.33, *Dean's List* (2x)
- **Relevant Coursework**: Introduction to Software Engineering, Data Structures, Database Systems I, Web Systems Development, Artificial Intelligence I, Operating Systems I, Introduction to Data Science

EXPERIENCE

Software Developer Intern — May 2024 – Apr 2025
Dayforce (formerly Ceridian) — *North York, ON*

- Worked within a **9-person** team on migration of user authentication from a **monolithic codebase** into an **identity-based microservice**, positively impacting over **3000 clients** in production
- Refined and developed **3 key features** following software development principles such as **Test-Driven Development** and **Domain-Driven Design**
- Incorporated **Redis distributed-memory caching** to store **bearer tokens**, cutting retrieval time from **2**s to **39**ms
- Designed several remote procedure call endpoints for user-configured multi-factor authentication policies using **SQL dependency injection** and **.NET's model-view-controller design pattern**
- Implemented endpoint user interface retrieval using **ReactJS hooks** and **JavaScript promises**, enhancing data fetching efficiency
- Secured sensitive API endpoints with an **authorization middleware**, improving application security by **74%**
- Extended a user data background sync job to ensure real-time consistency across several web applications
- Implemented strict **Content Security Policies** to mitigate **XSS**, **CSRF**, and other client-side vulnerabilities

Software Engineer — Sep 2023 – Apr 2024
Laboratory for Translational Medicine, Toronto Metropolitan University — *Toronto, ON*

- Integrated an advanced image-based motion tracking extension into **open-source software**, 3D Slicer
- Cooperated effectively within an **Agile software development team**, optimizing workflow, visualizing progress, and delivering quality software solutions on time
- Engineered the **Backend Logic** of the extension, enabling multi-file deletion and processing within a single session and resulting in **33%** decrease in backend-related bug reports
- Created new graphical user interface functionality, enhancing usability by **28%** through **3D Slicer's Python API**

Teaching Assistant — May 2023 – Aug 2023
RoboThink Northwest Toronto — *Burlington, ON*

- Instructed a comprehensive curriculum introducing students to various programming concepts in Scratch
- Supported the STEM Teacher in effectively employing RoboThink materials for engaging and interactive lessons
- Enhanced students learning through administrative tasks such as organizing curriculum binders and printouts, improving productivity by **50%**

PROJECTS

[Terrahacks Application Portal](#) — **Supabase | NextJS / ReactJS | Tailwind CSS**

- Developed a **Hackathon** portal, efficiently handling the registration of **473** applicants and **250** participants
- Architected and implemented a forgot password **data flow diagram** via **Supabase's Authentication REST API**
- Streamlined the hacker acceptance/rejection process by leveraging several **SQL JOIN** query integrating data from tables using both **one-to-one** and **one-to-many relationships**

[Sudoku Solver](#) — **HTML | CSS | JavaScript**

- Defined an **Event Listener** and **Regular Expression** for capturing and restricting user input to digits 1-9
- Constructed an **interactive, responsive web page** utilizing **CSS Media Queries** and **Flexbox/Grid Layouts** for optimal user experience across various devices
- Employed a **Backtracking Algorithm** to solve every valid Sudoku board inputted by the user and displayed the solution dynamically on the web page

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C#, SQL, JavaScript/TypeScript, Lisp, Perl, PHP, Ruby
Frameworks/Libraries: ReactJS, .NET, MySQL, Supabase, Tailwind CSS, Bootstrap, JQuery, PyQt
Developer Tools: Git/GitHub, Docker, Postman, Visual Studio/Code, Sublime Text, Jira, Trello, Unix/Linux